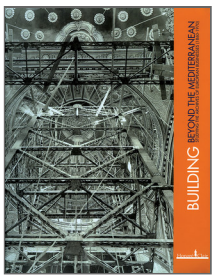

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# The organization of the Hennebique firm in the countries of the Mediterranean Basin: Establishment and communications strategy

*L'organisation de la firme Hennebique dans les pays du bassin méditerranéen : implantation et stratégies de communication*

Christel Frapier and Simon Vaillant

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# The organization of the Hennebique firm in the countries of the Mediterranean Basin: Establishment and communications strategy

Christel Frapier and Simon Vaillant

The eagerness of a reinforced concrete entrepreneur like François Hennebique to expand to the countries of the Maghreb is easily explained. Rather than representing an opportunity to experiment with and improve his process, the territory offered expansion potential for the economic and organizational system he had begun setting up from his Paris headquarters in 1896. In open competition with a certain number of other construction systems in mainland France, he undoubtedly believed that his establishment in French colonies would facilitate winning government contracts there, and also give him access to new markets. The "French Conquest" of these countries was in fact recent and the needs were immense. Economic, industrial, and tourist development did not begin to take root until 1935. In fact Hennebique expanded to this region very early, opening one of its first agencies in Algiers in 1893, at the same time as its French, Swiss, and Italian (Naples) agencies. The case of the Egyptian office, opened in Cairo in 1898 under the leadership of the engineer Émile Servin, stands out from the other countries by the advanced nature of its organization, and it became a model for other countries of the Mediterranean Basin.[41] In obtaining a license[42] from Hennebique in 1901, Émile Servin indeed benefitted from complete autonomy in running the agency and administering its affairs. His freedom of action – quite rare for agents – is perhaps associated with the observation of defects in the roof terraces of the Museum of Egyptian Antiquities of Cairo, erected two years earlier.

The relation between agents and licensees of the Hennebique firm was formed around the design and execution of works in reinforced concrete which the entrepreneur-licensee assigned to the engineer-agent. This system was the only means for Hennebique to establish its authority and to control its production especially abroad. Generally, the system's success outside France was based on the personality of the engineer-agents and their ability to balance their leeway in the field and full compliance with the requirements of the central office. Although agents


representing faraway territories rarely attended the biannual meetings in Paris, but this was undoubtedly for reasons of geographical distance.

Obviously, the exponential expansion of Hennebique's constructions abroad was driven by the growth in the number of its local licensees over the years, especially after the 1910s. Initially most often limited to a single agency and two licensees for each country – which was the case for Algeria, Tunisia and Egypt in 1904 – around 1913 Hennebique increased the number of its licensees while it consolidated its Algerian and Tunisian agencies.[43] It had nine licensees in Algeria and Tunisia, six in Morocco, and five in Egypt. However, in Turkey, Hennebique expanded drastically, going from only one agency and no licensees in 1904, to 28 licensees managed by the Constantinople agency in 1913. The offices enabled Hennebique to extend and operate in such distant countries as Syria. The Hennebique sales strategy, aimed above all at conquering new markets by setting up locally, was clearly operating in Turkey in 1912, a year marked by two major events: the earthquake at

The Hennebique office, Algiers (1927),
Régnier et Guion, arch.; Louis Grasset, cont.
(photo by H. Besson)

Murefte and the beginning of the Balkan War (in which the Ottoman Empire became involved in October). By opening an agency in the Galata area right in 1912, Hennebique was poised to benefit from the economic and construction opportunities of a return to peace in the near future. Apparently, although the personality and the "activism" of its local agent, A. George, enabled it to expand its system *in situ*, official support – especially from government ministries – was instrumental in arming Hennebique to face strong competition in the field.[44] The Turkish case is also representative of the situation for the majority of agents active abroad between 1900 and 1920. A first period in which competitiveness and strategic projects[45] – not always executed – aimed to establish the Hennebique system abroad would be followed by a boom in construction so significant that it generally overwhelmed the central agency and resulted in logistical dysfunctions. Around the 1920s, the correspondence contains many complaints local agents addressed to the central office, swamped with a backlog of orders to be processed and shipped. Local agents were losing business, as a result.

In Algeria, Hennebique had been established since the end of the 19th century. Initially, it entered the sectors of civil and military engineering, building bridges and hydraulic structures (piers, quays etc.), before responding to numerous commissions for public works (hospitals, schools, town halls), industrial buildings (silos, reservoirs, factories etc.), and private investments (hotels and some apartment buildings). Yet it was during the interwar period, when the agency in Algiers was constructed (touted by Hennebique as the first building in Algeria to be made entirely of reinforced concrete),[46] that it spread its process more broadly and extended its field of action to other typologies, especially to offices and apartment buildings. Like the company headquarters on rue Danton in Paris, the Hennebique building in Algiers was an excellent advertisement for ways to apply reinforced concret to civil constructions. Therein lies Hennebique's originality, differentiating it from its competitors. Other French construction companies established in Northern Africa, particularly reinforced-concrete companies such as Fourré & Rhodes, remained confined to the major public works sector. Hennebique had set up locally much earlier than its competitors, and diversified its offer, applying the Hennebique system to all types of buildings. As a result, reinforced concrete became one of the essential elements in civil construction in both Northern Africa and the Middle East.

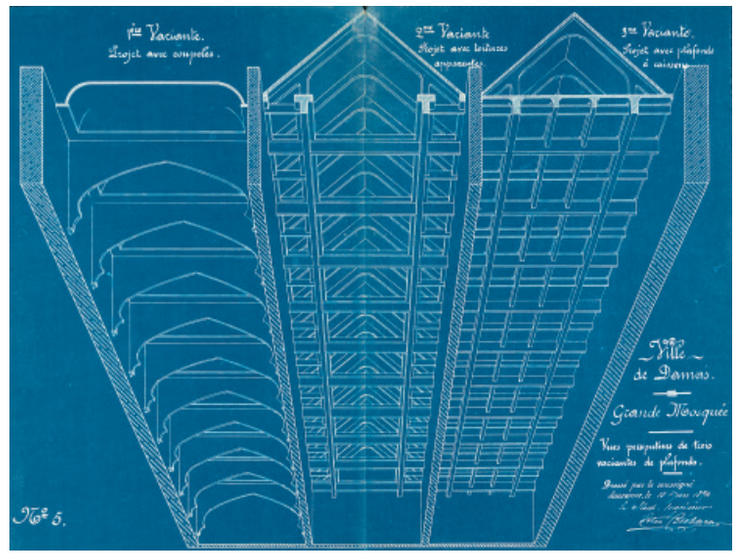
Hennebique office, Algiers (1927), Régnier et Guion, arch.; Louis Grasset, cont.: The office of Hennebique licensee Dop in 1933 (photo by Henri Eichacker)

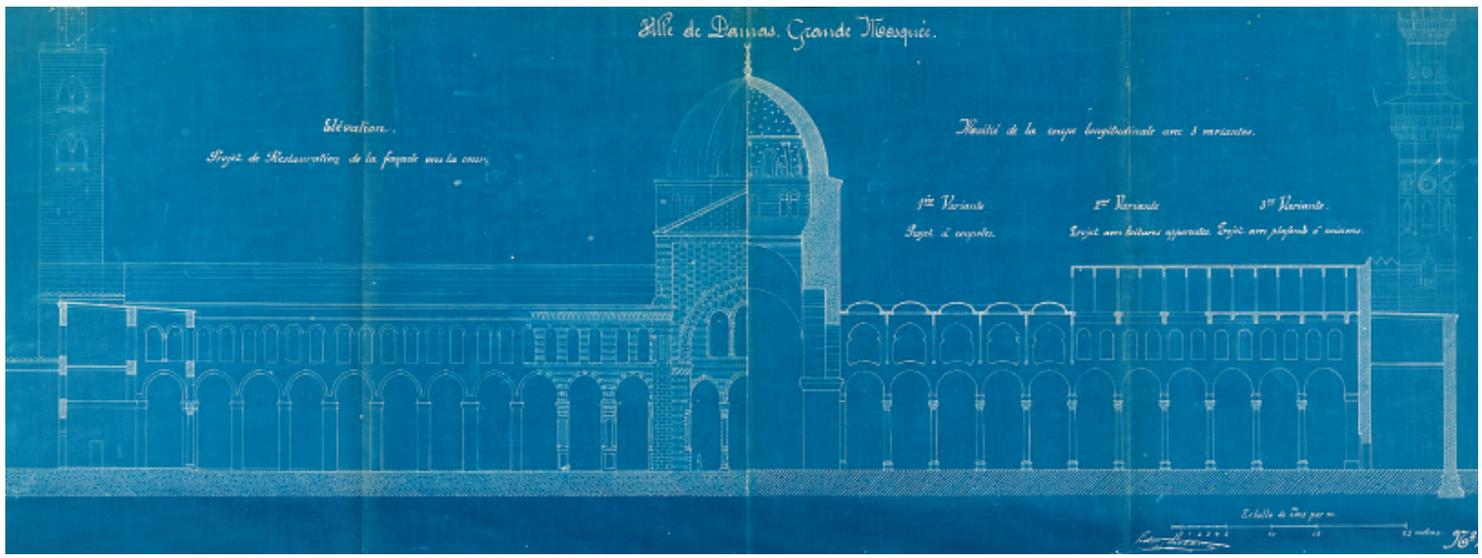
These territories constituted a true opportunity for the Hennebique firm, but also for the agents and licensees who depended on the system. Thus it was not rare to perceive in the various projects the personal strategies of entrepreneurs and engineers based in southern France, in Spain or in Italy, rather than south of the Mediterranean.[47] Besides dealing with agents eager to poach business from the North African territories, Hennebique was troubled to some extent by local labor. Specifications were tight, and compromise was impossible. Even though the firm "educated" workers in the company's expertise, there was nevertheless some skepticism about the new material and its requirements, if not rejection of them. Thus, Hennebique sometimes employed other agencies, depending on the skills needed for various projects. Obliged to consolidate structures, cover them or make them more resistant, on specific occasions, it sometimes made use of European agents such as the Swiss Samuel de Mollins for the restoration of the Great Mosque of Damascus (1894)[48], but also for bridges (Tizi-Ouzou, 1909). One of the constraints of worksites abroad lay

Preliminary drawings for Great Mosque restoration (following the fire on October 14, 1893), Damascus (1894), Edmond Béchara, arch.-eng.; Samuel de Mollins, eng.; P. Poujoulat, cont.; Francillon et Compagnie, cont.: perspective view of three ceiling variations, elevation and longitudinal section

in the additional costs incurred for example by the shipping of materials (cement, steel and wood for coffering). Charged to the budget of some projects, they forced the agent of the central office to make savings on design costs.[49] But sometimes, these additional execution costs were compensated for by the low cost of local labor. Representing at least 25% of the cost of establishing a structure in 1906,[50] this "cheap" labor was then a boon for reducing costs or at least rebalancing them. The organization and co-ordination of a worksite as well as the qualification of the labor appear to have determined the choice of technical solutions. Calling on specific skills, these requirements could in certain situations be abandoned in favor of simpler solutions: "Because this construction will be done in Morocco, a country where there is no any specialist manpower to speak of, we have designed a second solution..."[51]. The absence of qualification therefore does not seem to be an obstacle to the method of construction developed by Hennebique nor to its expansion. This disadvantage even allowed the contractor to have additional influence during the construction phase: "An intelligent site manager assisted by a good carpenter will have quickly transformed a few indigenous people into mixers of mortar."[2]

Communication about the structures erected by Hennebique in these countries appeared in print locally in the journal *Les Chantiers Nord-africains* (1928-1950).[53] This illustrated periodical about construction in northern Africa was an important endorsement for the firm. Many articles praised the functional and esthetic characteristics of Hennebique-system buildings. From 1902, local French language

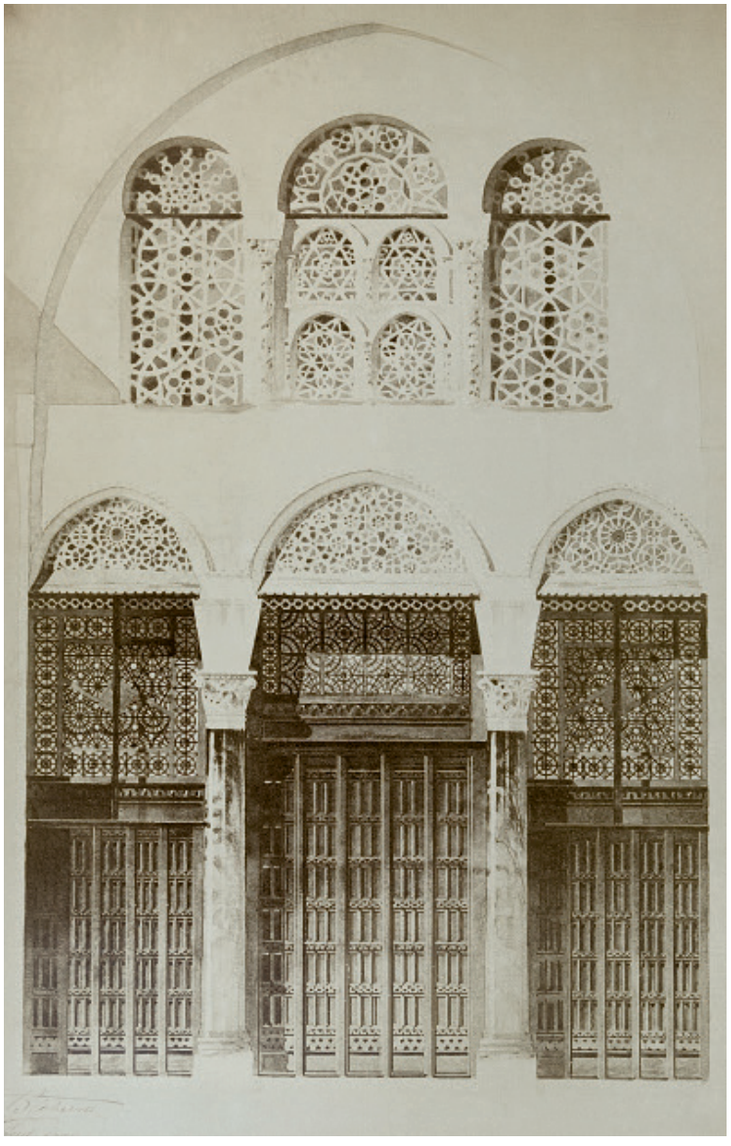


Preliminary drawings for Great Mosque restoration (following the fire on October 14, 1893), Damascus (1894), Edmond Béchara, arch.-eng.; Samuel de Mollins, eng.; P. Poujoulat, cont.; Francillon et Compagnie, cont.: detail, main portal

newspapers such as *Le Phare de Port-Saïd* reported to the general public on the advantages of reinforced concrete, highlighting its official adoption by the Ministry for Public Works and even inciting its generalized use for its solidity and low cost.[54]

The journal *Le Béton armé,* an official organ of the firm, also dedicated five issues to construction in Northern Africa between December 1934 and April 1935. Almost exclusively covering Algerian constructions, these issues constitute a special dossier showing a range of structure types completed by Hennebique since the Algiers office had opened in 1894. The articles describe the architectonic qualities of each building and in particular the various businessmen involved in the projects.



But the firm went beyond the level of business rhetoric, a genre it had mastered long before the special issues of *Le Béton armé were* published. It even engaged in political discourse, presenting itself as an essential ally of the authorities for the "industrial and commercial" development of a territory, which moreover was a colony. The firm built its authority on bases other than those listed in its reinforced concrete process. It echoed colonialist values in which the spirit of conquest of the "natives" and the struggle against unfair competition were precepts, while it benefited from a quasi-monopoly in Algeria in 1935.

Globally, Hennebique's communication strategies abroad were the same as those used by the company in Belgium and then in France from the late 19th century. Positioning itself in particular against the expansion of the steel sectors, for example, it emphasized the mechanical qualities of reinforced concrete, and in particular its resistance in the event of a fire, just as François Hennebique had done at the turn of the century for the textile regions of northern France. Thus, in 1927, the journal continued to report on major fires, both in France and in the countries of the Mediterranean perimeter, whereas one might have thought that after the death of François Hennebique in 1921, the company might have changed its pitch. In this sense, the case of the Cicurel stores in Cairo is enlightening: the journal explains that the building had been entirely erected in 1912 by the Entreprise Rolin – a licensee in Cairo since 1904 – except for the large central staircase which, for purely esthetic reasons and despite Hennebique's opposition, was built of wood and wrought iron. When the department store was hit by a fire in 1920, the reinforced concrete resisted, but the staircase was

Cicurel department store, Cairo (1909-1912), Émile Servin, eng.; Rolin et Compagnie, cont.: The pit of the central staircase after the fire on October 13, 1920

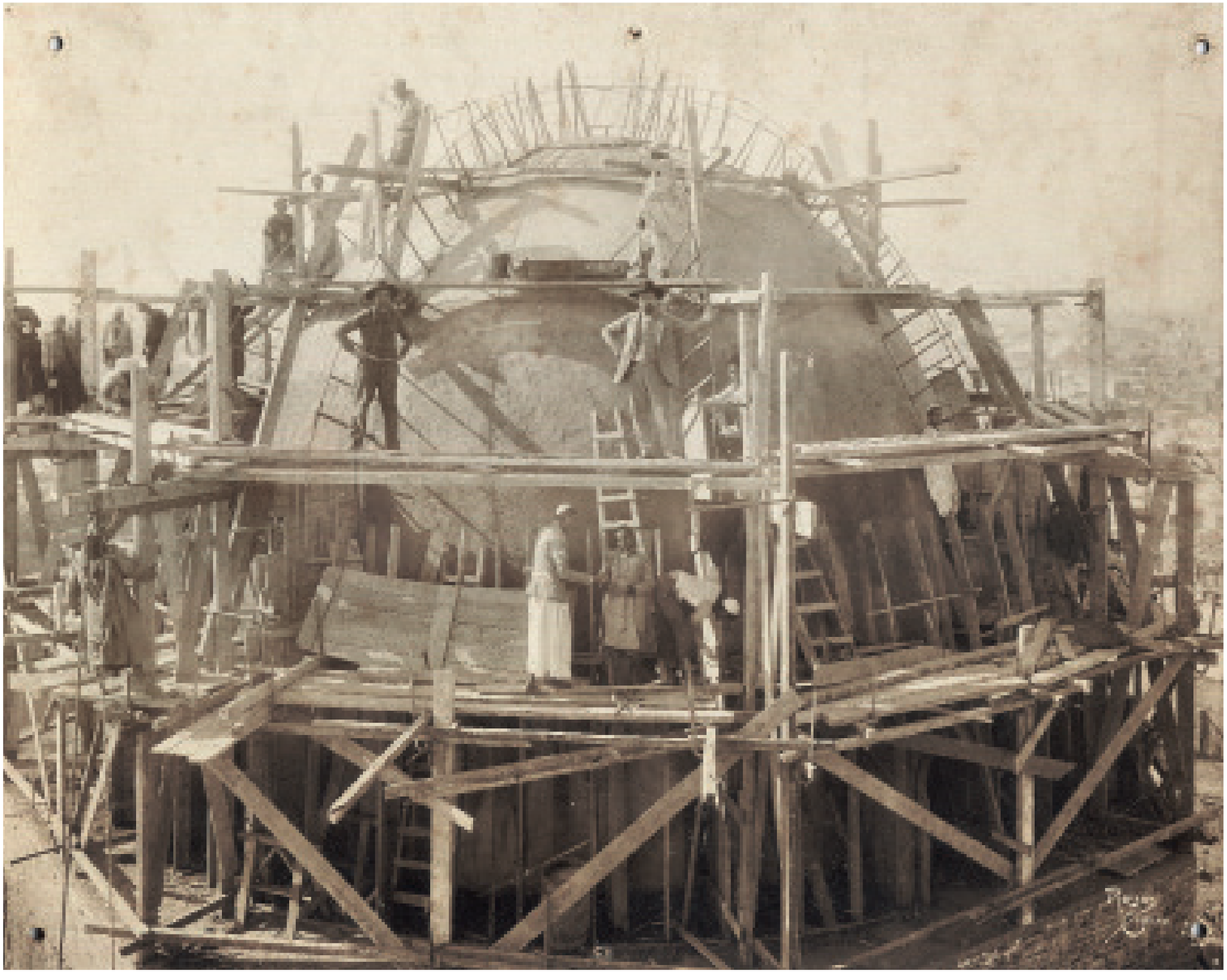
destroyed. The large void it left eloquently expressed the superiority of reinforced concrete over metal.

The competition between metal and concrete was played out in construction capacities, but also in the esthetics of the two materials. Hennebique's concern for the esthetic aspect of its first structures abroad was what enabled it to compete with the steel sector – especially the firms Daydé, Baume & Marpent and Fives-Lille[55]– and thus to win contracts.[56] A bitter battle was indeed engaged in the area of the erection of structures, steel appearing more easily to obtain the favors of public authorities responsible for parceling out contracts in the early 1900s.[57] Besides the fact that reinforced concrete had not yet come into the public domain, the spectacular constructions of Eiffel for example, still present in public memory, as well as the recent creations of the various European steel manufacturers, undoubtedly contributed significantly to this trend. The stakes for reinforced concrete and Hennebique in particular were therefore to show that concrete could match the beauty of steel construction, while surpassing its mechanical capacities. One of the sales argument of the "first application of reinforced concrete of [its] system for a large bridge in Egypt",[58] the road bridge at the Gabbari Station in Alexandria in 1905, moreover does not lie as much in the calculation sheets the firm could provide, but in the photographs and reports of tests on bridges it had carried out in advance.[59] All the arguments and examples it called upon were then likely to tilt the scales in favor of reinforced concrete: resistance to outside military attacks, examples of earlier maritime constructions, constructions abroad, testimonials from administrations which had already ordered structures, etc.

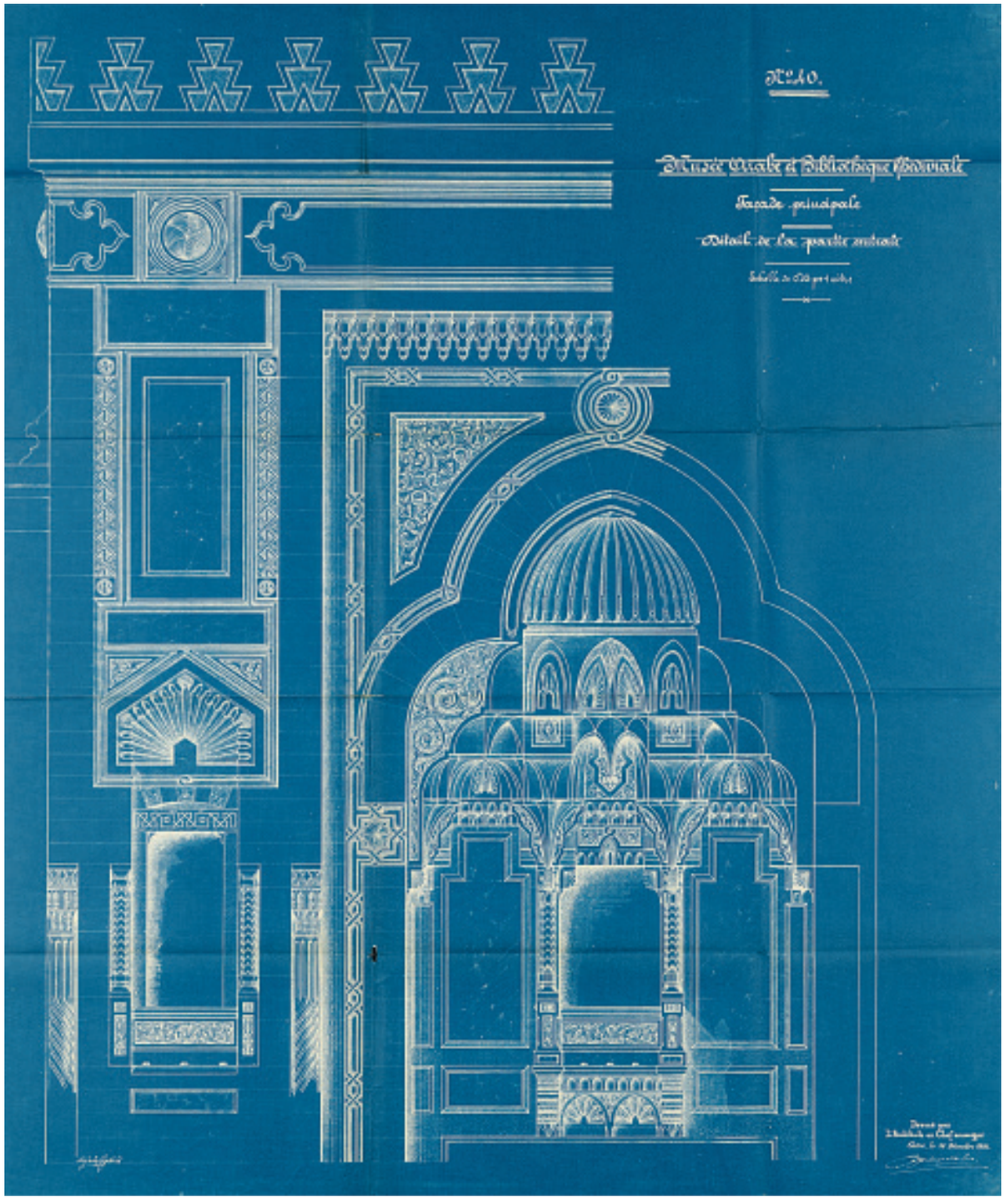
During this period, reinforced concrete also played on its ability to attract architects by offering them decorative elements. Thus, by emphasizing the esthetic capacities of reinforced concrete, Hennebique succeeded in obtaining one of its first contracts in Northern Africa: the Arabic Museum and the Khedivial Library in Cairo (1895-1898). To sell its technical offer (building the sleepers[60]) to the investors, two possibilities were available: the economic argument or the esthetic argument. Against all expectations, the company did not emphasize the economic aspect of its construction system, but the capacity of concrete to "decorate easily and artistically" the ceilings of the large rooms and lobby. Thus, it was not the architect who proposed an esthetic solution to the company, but the Neapolitan agent, Giovanni Narici, who suggested a decorative project to the architect Alfonso Maniscalco, to convince him to support the Hennebique system. Tactically, Marciano, the company from Cairo, had to present to the Egyptian Government the girderings – a rather arid technical element – of the most visible public rooms, in order to display the Neo-Mamluk style ceiling coffers. The economic argument appeared only later, because the proposed decor varied in complexity. A change in the quantities of material needed to complete the decor would cause additional expenses that the architect might very well have turned down.

The establishment of Hennebique in the countries of the Mediterranean perimeter is surely more complicated than

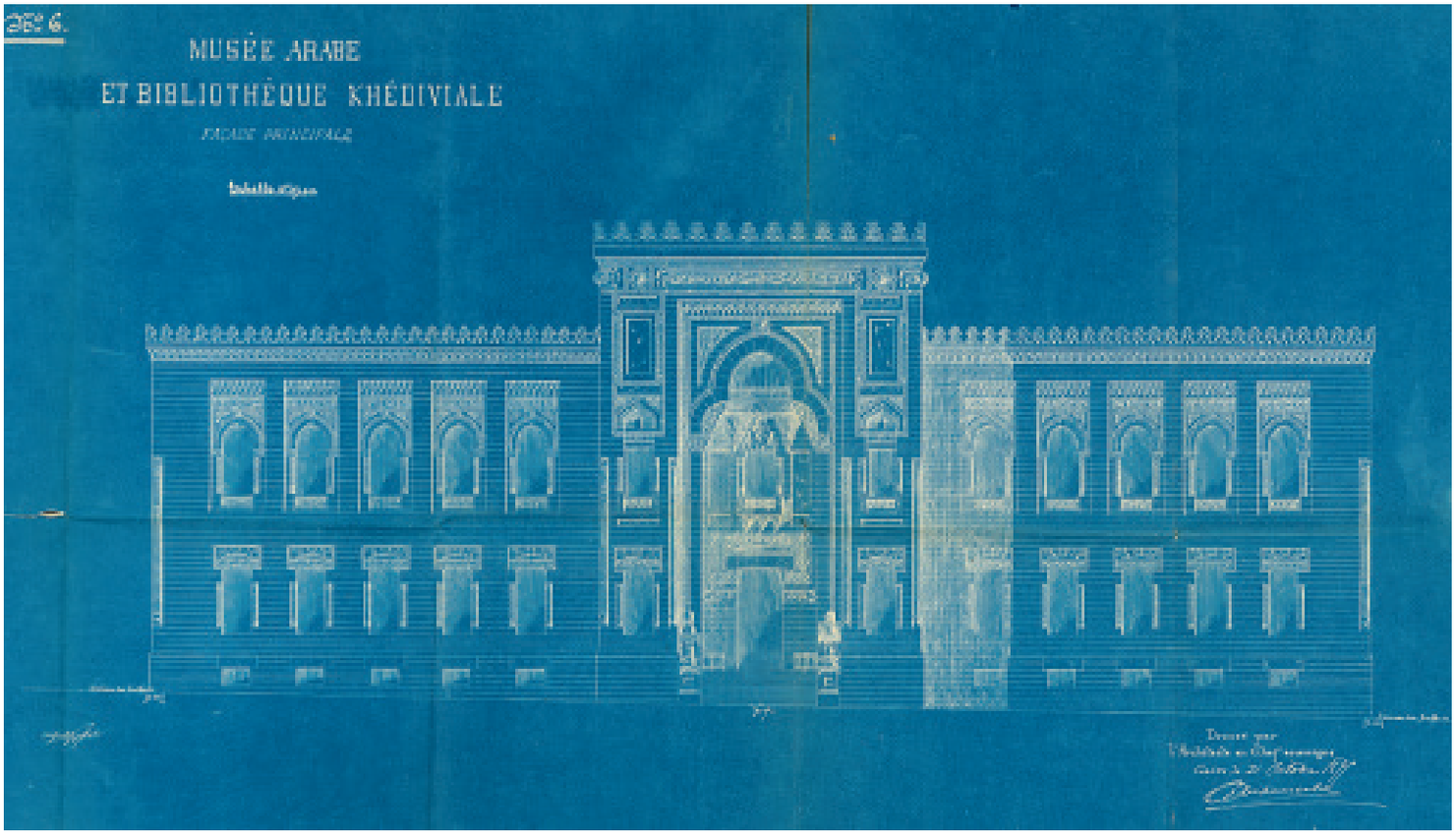
Sultan Qalawun Mosque, Cairo (1904-1905),
restoration by Max Herz Bey, arch.;
Émile Servin, eng.; Rolin et Padova, cont.:
The dome under construction
(photo by M. Reiser)



Arabic Museum and Khedivial Library, Cairo (1895–1898), Alfonso Maniscalco, arch.; Clifton, eng.; Émile Servin, eng.; M. A. Moreau, cont.: Detail of the central portion of the main facade



Arabic Museum and Khedivial Library, Cairo (1895–1898), Alfonso Maniscalco, arch.; Clifton, eng.; Émile Servin, eng.; M. A. Moreau, cont.: Elevation of the main facade




it appears, given the geographical extent of the zone and its political heterogeneity. Even though the examples listed above show a method of operation or a type of commission, they are the expression of an unusual context of creation, specific to a country at a specific time. Currently, the classification of the Hennebique archives[61] is incomplete. This is an obstacle to a more synoptic approach to our area of study. Although the period of activity is clearly marked, the essential data, such as knowledge of the exact role of the main players or the chronology of the typological production in a given region is either missing or insufficient for us to document in detail the stages in the establishment of a sprawling but nevertheless mobile network.